

Further criticism of Mr. Nash's "New or noteworthy American grasses."¹

Notes on *Sporobolus*.

Some confusion exists in regard to certain North American species of *Sporobolus*, as is manifested in botanical publications of this country, and especially in our larger herbaria. A writer in a recent *Bulletin* of the Torrey Botanical Club attempted to clear up this confusion, but, through an evident misconception of the species, has unintentionally added to it. *Agrostis brevifolia* Nutt. has been taken up for *Sporobolus cuspidatus* (*Vilfa cuspidata* Torr.), and there is no doubt as to their identity. Nuttall very clearly and fully described his species (*Agrostis brevifolia*) in the first volume of his "Genera," and *Sporobolus cuspidatus* is equally well characterized by Hooker in the second volume of his "Flora Boreali-Americanae," and there is only one grass in the region of the type localities to which these descriptions could apply. I can not help thinking that the writer in the *Bulletin*, above referred to, must have failed to fully read Nuttall's description of *Agrostis brevifolia*, or he would not have applied it to the very distinct species noted below. One essential and almost decisive character given by Nuttall for *Agrostis brevifolia* is: "Culms solid and compressed . . . not terete, but solid and ancipital." This character affords a clue to Nuttall's plant, and, combined with the others given, leaves no doubt as to its identity with *Sporobolus cuspidatus*, for there is no other grass within the range (Fort Mandan on the Missouri) possessing all these characters. Another good character presented by this grass is a minute pubescence at, and extending for a greater or less distance below, the nodes. This character holds good throughout all specimens in the National Herbarium.

For the species we have the following synonymy:

Sporobolus cuspidatus Scribn. Bull. Torr. Bot. Club 10: 63.

Sporobolus brevifolius (Nutt.) Scribn. Mem. Torr. Bot. Club 5: 39.

Vilfa cuspidata Torr. Hook. Flor. Bor. Am. 2: 238.

Vilfa gracilis Trin. Agros. 1: 82. not *V. gracilis* Trin. l. c. 52.

Agrostis brevifolia Nutt. Gen. 1: 44. 1818.

¹ The two following articles received independently may be combined by the editors under this caption. See also BOT. GAZ. 20: 554. D 1895, and Mr. Nash's reply on p. 41 of this number.—EDS.

Represented in the National Herbarium by specimens from: Montana (350 Scribner); Nebraska (771 C. L. Shear, 2,551 Rydberg, and 2,795 Fred Clements); Devil's Lake, N. Dak. (C. A. Geyer); Minnesota (E. P. Sheldon); Missouri (no. 423*b* B. F. Bush), Kansas (Dr. Carruth, and Mr. Swingle); Colorado (S. M. Tracy).

The grass which appears to have caused the existing confusion here, is the more slender and heretofore unidentified *Vilfa Richardsonis* Trin., of which the following is the synonymy:

Sporobolus aspericaulis (Nees).

Muhlenbergia aspericaulis Nees, ex Trin.

Vilfa Richardsonis Trin. Agrost. 1: 81.

Vilfa cuspidata auct. plur., not Torrey in Hook. Flor. Bor. Am.

Sporobolus brevifolius Nash, not Scribner.

This species has a very wide range, and is well represented in the National Herbarium: Northern Maine (C. G. Pringle); (147 Fernald); New Brunswick (19 John Brittain); Anticosti (48 John Macoun); Oregon (765 Cusick); Colorado (1075 John Wolfe); Idaho (552 Coulter); Nevada (1279 Sereno Watson); Montana (410 and 627 C. L. Shear), etc.

This is a very slender, erect grass, branching only at or near the base, with sheaths much shorter than the internodes, and very short, almost filiform, arcuate-spreading leaves. A constant character, mentioned by Trinius, is that the culms are minutely, but distinctly punctate, "*punctis asperis obsiti.*" This species is very closely allied to *Sporobolus depauperatus* (*Vilfa squarrosa* Trin.), into which it may pass.

Referring again to the article published in the Torrey Bulletin, I would say that, if *Sporobolus vaginaeflorus* Vasey be regarded as a species distinct from *Sporobolus vaginaeflorus* Wood, why make a new name for the former, when there is one that might be taken up? *Cryptostachys vaginata* Steud. is evidently *Sporobolus vaginaeflorus* Vasey, and, carrying out the premises, the rules of nomenclature require us to take up Steudel's name which gives us for the species the following synonymy:

Sporobolus vaginatus (Steud.).

Sporobolus vaginaeflorus Vasey, not Wood.

Sporobolus neglectus Nash (1895).

Cryptostachys vaginata Steud. (1855).

It is quite possible that there are other and yet older names, but at all events *Sporobolus neglectus* is an unnecessary addition to a much-burdened synonymy.—F. LAMSON-SCRIBNER, Washington, D. C.

The validity of Mr. Nash's changes.

In a recent article on the subject of "New or Noteworthy American Grasses,"¹ several new species are described and a number of new names applied to old ones. *Erianthus compactus* is a form which has been known to botanists for seventy years, being widely distributed through the eastern manual range. It has been included in the manuals under *E. saccharoides* Michx., and *E. alopecuroides* Ell., and has been commonly known by these names, yet the author neglects to mention the fact and hence leads us to infer that it is an entirely new discovery. The change in the name is said to have been made because there is in the Herbarium of Columbia college a fragment of Gronovius' number 133,² which has the twisted awn, "aristis tortuosis" of the original description of *Andropogon alopecuroides* Linn. Munro,³ who has examined the grasses of the Linnaean Herbarium, says: "The numbers in the Herbarium refer to those used in the first edition of the 'Species Plantarum,' Linnaeus' own copy being very carefully marked by himself. In the following list I have used these numbers, *underlining* them, as was done by Linnaeus himself, thus 1, 2, etc., to imply that the plant was actually in the Herbarium. I have carefully examined every grass in the Herbarium; and in annexing the following list of names which I consider they should bear, I trust the list may be of some little use to botanists who are unable to consult the Herbarium itself."

Munro gives l. c. 52, in his subjoined list, under *Andropogon*: "4. *A. alopecuroides*, from North America, is *Erianthus saccharoides* Michx." Hackel⁴ places the Linnaean species, excluding Sloane's synonym, under *E. saccharoides* Michx., subspecies a, *genuinus*. He does not consider the twisting of the awn a character of specific value. The description of Mr. Nash's new species does not differentiate his plant from

¹Bull. Torr. Bot. Club. 22: 419. 1895.

²Linn. Sp. Pl. 1045. 1753.

³Proc. Linn. Soc. Bot. 6: 33 *et seq.* 1861.

⁴DC. Monogr. Phan. 6: 128. 1889.

that so long known to American botanists as *Erianthus saccharoides* Michx., which according to Munro is the same as the specimen in Linnaeus' Herbarium. Are Munro and Hackel to be classed as blind guides leading the blind?

The genus *Panicum* is an exceedingly complex one, its species having a world-wide distribution. It has been divided by such distinguished botanists as Trinius, Nees, Bentham and Hackel into thirteen or fourteen sections, which appear somewhat artificial when viewing the genus in its broadest or world-wide sense. Local botanists and collectors have time and again raised these sections to the rank of genera. If we consider only the American species of *Panicum*, that group characterized as *Digitaria* by Scopoli, or *Syntherisma* by Walter, might perhaps be separated as a genus. But in our study of this genus we can not ignore the many foreign species which stand in intermediate positions and link the various groups together. The study of systematic botany is a study of relationships. The chief end of this branch of botany is not to provide every plant which possesses individual variations with a name. It is of the greatest importance that we know to what known species a new one bears the closest relationship. The synonymy given under *Syntherisma* is faulty, if we are to judge it by that of Doell,⁵ who has furnished us the most recent monograph of this group of *Panicums*.

Concerning the species botanists have known for many years as *Panicum latifolium* L., but which we are informed must now be called *P. Porterianum* Nash, Munro⁴ says: "17. *P. latifolium* L.! From Kalm, North America. A specimen attached to this from Carolina is *P. divaricatum* L., to which Sloane's figure, t. 71. f. 3, belongs; another, marked *latifolium* is *P. oryzoides* Sw." Concerning *P. divaricatum* he says: "From Jamaica. This plant has often been confounded with *P. latifolium*, and bears the names of *P. ruscifolium*, *maculatum*, *glutinosum*, and *agglutinans*. Another specimen of *divaricatum* is marked *arborescens* by Smith." According to this the Linnaean name does really belong to the North American species and not to "a tropical species," as stated in the article in question.

Panicum minus (Muhl.) Nash does not seem to deserve to be raised to more than varietal rank. It has a more slender habit than the common form of the species, but the other

⁵Doell in Mart. Pl. Bras. 2²: 128. 1871-6.

characters given by the author do not separate it from *P. capillare* L. As to the synonymy given, there must be considerable doubt until the type specimens of Pursh, Torrey and Bernhardt have been examined and compared with the form which we believe to be the variety *minus* Muhlenberg.

There is the same doubt concerning the validity of "*Panicum boreale* n. sp." In the manuals it is included under *P. dichotomum* L., being more closely related to that than to *P. laxiflorum* Lam. It certainly does not deserve specific rank, as it is only one of many forms that go to make up the species *dichotomum*. It is well named and perhaps deserves to be separated out as a form or variety. That can only be determined after a study of all the material obtainable. Here we may well quote a remark of Munro's:³ "Amongst grasses I find the errors extraordinarily numerous. Many of these might have been avoided by consulting herbaria easily accessible; and very many might have been avoided by a little care, and less anxiety for the creation of species."

The genus *Ixophorus* Schlecht.,⁶ "welche man Gattung oder Panicum-Section nach Belieben nennen mag," was, as the author states, based upon *Urochloa unisetata* Presl.⁷ Some of the characters of the latter are: "Panicula composita e spicis plurimis alternis, flexuosis, patentibus.--Flosculus hermaphroditus palea superiori quarta parte brevior, lanceolato-linearis, stramineus paleæ cartilaginæ; inferior ovata, trinervia, nervo medio in aristam brevissimam persistentem, excurrente, inter nervum medium et lateralem utrinque sulco longitudinale natata." Is this plant a *Setaria*? Mr. Nash saw the true *Ixophorus* at the National Herbarium, but failed to recognize it. He has increased and obscured the synonymy of *Setaria* by an addition of four names.

I wish to enter a protest against the use of the word "scale" in describing the bracts of a grass inflorescence. The terminology most generally adopted by systematic botanists is that proposed by Bentham.⁸ It has been adopted because of the great confusion caused by the various authors using different terms to denote the same organs. Morphologically these glumes are not scales. Each spikelet is a reduced branch. The empty glumes and the flowering glume are leaf sheaths. The palea is a prophyllum. The flower is lateral and

⁶Linnaea 31: 420. 1861-62.

⁷Rel. Haenk. 1: 319. 1830.

⁸Journ. Linn. Soc. Bot. 15: 502. 1877.

never terminal except in certain *Agrostis* species and other grasses from which the palea is wholly absent, and there is no homology between the floral glumes and the true scales of a rhizome. The glumes are not borne upon the axis of the flower. The latter is a branch bearing a naked flower. If true scales exist in the grass spikelet they are represented by the lodicules to which the term *scale* has frequently been applied in systematic works.

The terminology of the organs of plants has occupied the attention of our ablest botanists, and there has been a manifest effort on the part of our best thinkers to make the terms employed definite, and so far as possible expressive of homologous relationship. Glumes, both empty and flowering glumes are expressive and accord with the principle just noted. They are everywhere employed in the botanical literature of the day and have become practically fixed in our language. That a botanical journal of eminent standing should inaugurate so radical a change in terminology without presenting any reasons for so doing is remarkable.—JARED G. SMITH, *U. S. Dept't of Agriculture.*